

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER- V(OLD) EXAMINATION – SUMMER 2019****Subject Code: 150702****Date: 06/06/2019****Subject Name: Computer Network****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Draw the OSI reference model. Explain the functionality of each layer in brief. **07**  
(b) What is topology? List out different types of topology and explain each in detail **07**
- Q.2** (a) Write a note on guided and un-guided transmission medium **07**  
(b) Explain ALOHA system. How slotted ALOHA works? Differentiate it with pure ALOHA. **07**
- OR**
- (b) Draw and explain Ethernet 802.3 Frame structure. **07**
- Q.3** (a) What is the difference between error detection and correction? Explain any one error correction technique with suitable example **07**  
(b) Describe the working of sliding window protocol. Also explain the piggybacking phenomenon **07**
- OR**
- Q.3** (a) What is Routing? Explain shortest path routing with example. **07**  
(b) Explain IPv4 datagram format and importance of each field **07**
- Q.4** (a) Explain ICMP & IGMP in detail **07**  
(b) Explain various versions of CSMA protocols. **07**
- OR**
- Q.4** (a) What is count-to-Infinity problem? Explain it with example. **07**  
(b) What is DNS? How resource records are maintained in DNS? **07**
- Q.5** (a) Write a note on HTTP. **07**  
(b) Write a short note on Mobile IP **07**
- OR**
- Q.5** (a) Differentiate Datagram and Virtual circuit **07**  
(b) Draw and explain TCP packet header. **07**

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